

Developing Yangon's periphery



In brief

- The urban periphery – areas around a city – plays an important role in the growth and development of a city. These areas attract manufacturing because costs tend to be lower and individuals because they serve as the entry points for migrants.
- Yangon has seen little spatial expansion in recent years, despite a rising population. Urban planners are now looking towards peri-urban townships bordering Yangon's central business district as future spots for growth.
- This policy brief outlines how peri-urban development will be important if Myanmar is to reap rewards from its transition into an urban nation.
- The author concludes that successfully developing Yangon's periphery requires a coordinated effort between government agencies at all levels to plan necessary infrastructure investments and to make appropriate institutional changes.

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Urbanisation: a key part of development

Throughout history, cities have been essential in development. No country has become rich without first becoming more urban. This trend is taking place in Myanmar, with more and more people leaving rural areas behind to seek new opportunities in cities like Yangon or Mandalay. Overall, the population still remains rural; only one in three live in urban areas. But handling rapid urbanisation is a complex task, one which few cities in the region have done well. Countries that have seen success from rapid urbanisation have two things in common: first, they successfully developed their overall economies (including the agriculture sector), and second, they had capable institutions and detailed plans mapping out the long-term spatial development of their cities. This policy brief focuses on the latter and outlines how peri-urban development, or developing the townships around the municipal periphery of a city, will be important if Myanmar is to reap rewards from its transition into an urban nation.

Why cities create growth

Cities bring people and businesses closer together, creating countless opportunities for commerce, social interactions, and innovation (Henderson, 2012). They are centres of economic growth because cities tend to be more productive. Greater productivity comes from two sources: first, from the density of people and businesses, and second, from the fact that cities attract more people, especially talented ones.

Density helps growth because hiring new workers or finding new jobs is easier when there are more people or businesses in the area. The same applies to sellers and buyers of goods: density makes it quicker to find the items you want to buy, as well increasing the number of potential customers.

Frequent interactions between people and enterprises create an ideal environment for innovation and transferring skills. Skilled workers complement those around them and their contact with less skilled workers leads to knowledge transfer. Enterprises in a city are exposed to greater competition but also have greater opportunities to learn from others and innovate.

Why people move to cities

At the early stages of development, cities can be difficult places to live. Important infrastructure like housing or sewerage may be missing and the ability of municipal governments to provide adequate services may be weak. Jobs might be present but not always easy to find. Rapid urbanisation can lead to slums, creating pockets of poverty throughout the city. Why, then, do people move to cities?

In Myanmar's case, there are certainly push factors: natural disasters,

such as Cyclone Nargis, can devastate rural livelihoods and leave few economic opportunities behind (Koh, 2016). Beyond Nargis, far more regular fluctuations in weather can make agricultural incomes very unstable. Lacking no other alternative, people may head for cities.

However, positive developments in agriculture can also push people out of rural areas. Advances in agricultural technology can increase productivity but lower the demand for labour, resulting in fewer opportunities in rural areas for casual labour work. Rising labour costs also influences the role of labour in agriculture, lowering the number of seasonal workers farmers can hire.

Pull factors also draw in migrants. The economic activity of cities entices migrants by offering promises of higher wages. Unlike seasonal agriculture, jobs in cities, such in light manufacturing, offer a reliable stream of income. A booming city demands a lot of labour for construction and job suitable for migrants with weaker educational backgrounds.

How people perceive the opportunities presented by a city influences the inflow of migrants. Big cities like Yangon and Mandalay are centres for activity and therefore places for jobs and a good income. Once settled, the reality of urban life can quickly change; poor planning and low government capacities mean many essential services and basic infrastructure are inadequate (Dobermann, 2016). Proper housing might be unaffordable. The promise of abundant jobs may also prove illusionary as migrants come to realise that jobs, while out there, may be too far away or too difficult to find. This sets the scene for urban development in Myanmar that is rich with possibilities but fraught with risks if mishandled.

The role of peri-urban development

Economists have long recognised that dense cities provide richer information environments, improving productivity, innovation, and overall economic activity (Henderson, 2012). However, associated with these developments are higher land and labour costs. In addition, not all industries benefit equally from the environment a dense urban setting provides (Baum-Snow, Henderson, Turner, Zhang, & Brandt, 2016).

Developed cities often specialise in business and financial services and act as incubators for small businesses. Manufacturing and industry tend to be found on the urban periphery or in smaller towns, in contrast to developing cities where manufacturing often takes place quite close to the centre. This is a typical pattern of countries which are in the early stages of industrialisation. As countries mature and develop, central city environments become too expensive for standardised manufacturing, with firms choosing to decentralise to the urban periphery where land and labour costs are lower.

This makes townships on the periphery of large cities crucial areas for development. These areas represent the frontiers of future urban growth and are often the point of arrival for newcomers. However, striking a balance between density and sprawl is crucial, as the costs of too much dispersion can become very high. The successful migration of factories to the urban periphery and the growth of rural industry depend substantially on the ability of transportation networks to link up peripheral areas to the rest of the local economy. With these networks in place, the urban periphery can become an attractive place for factories to operate, taking advantage of lower costs and providing valuable jobs for migrants in the process.

Evidence from China shows that ring roads contribute to the displacement of central city production to outlying areas (Baum-Snow, Brandt, Henderson, Turner, & Zhang, 2016). Other large transportation networks like highways or railroads have historically played a role in decentralising industrial activity out of main cities. Peri-urban areas are also important links between cities and rural areas, furthering opportunities for rural development. The regions surrounding Yangon have excellent potential for developing agribusiness and establishing deeper agricultural value chains. Furthermore, developing the periphery of a city could pull in more migrants to these areas and lessen the pressure of congestion in the centre. The appeal of peri-urban areas changes over time. For a developing city like Yangon, the appeal is the availability of land and the potential benefits of reduced congestion. Once cities become richer, peri-urban areas have the extra appeal of being cleaner, quieter, and often have lower crime.

While the rise of new suburbs is a natural part of urban growth, a key risk is to avoid uncontrollable growth or sprawl in areas bordering the core of a city. Finding the balance between density and dispersion is a tricky but fundamental task for an urban planner. Unplanned sprawl leads to congestion, pollution, and hinders the government's ability to provide services. Minimal urban growth can overwhelm cities centres with congestion, while too much sprawl can remove the very benefits cities bring to the economy; the key is balance. For example, a city with too much sprawl can see the cost of commuting within a city increase considerably, affecting the range of jobs and services which are accessible and limiting the benefits of more frequent interactions between people and businesses (Bertaud, 2004; Harari, 2014).

Left unchecked, these problems grow and become increasingly difficult to resolve. This is because the shape of cities, once built, are difficult to change. Diverting roads or building new infrastructure on top of existing urban areas is hard. The lesson: here is that managing peri-urban growth is essential and involves planning major and secondary roads, utility networks, and other infrastructure well in advance (Venables, 2015). As important is the intergovernmental (political, administrative, fiscal) institutional context within which urban local governments are expected

to operate. Peripheral areas such as Hlegu fall outside of YCDC’s current remit, but could in the future be integrated within the municipal boundaries of the city. Therefore, it is important that a clear set of responsibilities and shared plans for development between all actors (the Yangon Regional Government, YCDC, township DAOs, etc.) is in place to manage the development of these areas.

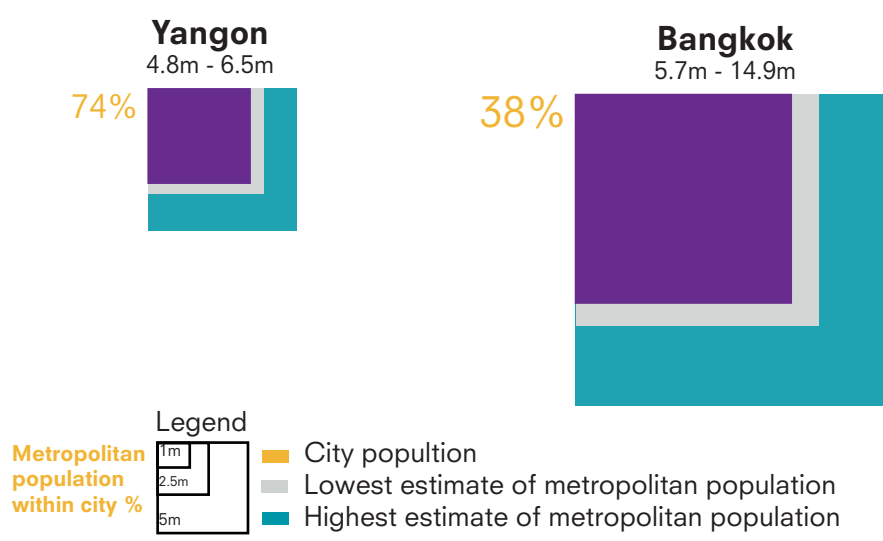
Over time, as the city grows and expands, projections for future urban growth will also have to be regularly updated to respond to longer-term needs and to safeguard space for future development. Doing so will reduce the messiness of urbanisation, prevent the locking in of undesirable spatial forms, and facilitate the provision of services (World Bank, 2013).

Yangon today: Current situation and key challenges

The risks of uncontrolled urban growth are large and in many cases are already being felt in Yangon. The urban poverty rate is estimated at 34.6%, reflecting high living costs and the challenges in obtaining stable and decent jobs (World Bank, 2014). Urban expansion has so far been limited and the city remains dense. Affordable housing is scarce and recent expansions in slum areas have been notable; the two are probably linked. A jump in foreign car imports in recent years has greatly increased the overall stock of cars, making congestion a headache felt daily in Yangon. These are all examples of the ‘demons of density’, or dangers of uncontrolled urbanisation.

Urban expansion

Figure 1: Estimate of city and metropolitan populations. (LSE Cities, 2016)



Yangon's built up area has not grown as quickly as its population. Yangon has a population similar to Bangkok, but the physical size of the city is much smaller (LSE Cities, 2016). Figure 1 shows the enormous metropolitan population of Bangkok compared to Yangon, reflecting its vast sprawl. Between 2000 and 2010, Yangon's spatial area grew at an average rate of 0.5% per year, one of the lowest in the region (World Bank, 2015). This can be both a positive and a negative feature. In fact, Yangon's relative density is interpreted by most international urban planners as a unique opportunity. If the institutions are in place to handle such density then this can lead to enormous benefits of greater economic activity and innovation. Density makes it easier to reach larger groups of people when providing services or information and the impacts on the environment are lower in denser cities. However, if density is not well handled, this can lead to negative effects, such as congestion and contagion. Developing cities often struggle to counteract these negative effects

Congestion

Yangon's infrastructure has not been able to keep up with the growth of cars. Private transportation is desirable and the increasing demand for it is understandable in the context of a growing economy. However, compared to public transportation, cars take up more space.¹ The latest attempt to develop a bus rapid transit (BRT) system is a step in the right direction. However, for changes to occur these need to be properly enforced and expanded. Under the Yangon Urban Transport Master Plan (YUTRA), the total number of trips taken per day in Yangon is expected to double by 2035 (JICA, 2014). The household car ownership ratio is expected to double by 2025 to 23.2%. The short term recommendation of the YUTRA is to maintain a 60% public transportation modal share, chiefly by a large scale up of Yangon's bus rapid transit system. Currently, there are no plans to lift the restriction on motorcycles which applies to most townships within YCDC.²

Beyond expanding existing public transportation networks, the government should also address illegal parking and the use of streets for purposes other than transport. The limited amount of off-street parking forces drivers to park on-road; by some estimates, this reduces the average travel speed in the central business district by 6-7 km/h (JICA, 2014). Density often takes the blame for congestion, but it is not always so straightforward. Stretching out or sprawling a city to lower congestion can have the opposite effect as it makes private (car) ownership look more attractive. A sprawled city increases the financial and time cost of moving around the city as well. Overall, the key is balance: building new roads

1. Motorcycles are not allowed in Yangon's main townships.

2. The effect of allowing motorcycle use on congestion is not clear. On one hand, motorcycles are more space efficient and emit less; on the other, it could be that those who decide to use motorcycles were previously users of public transport, therefore possibly only adding to total congestion.

but also supporting existing forms of public transportation.

Housing and slums

Good data on slum populations is hard to find, but some estimates suggest that slums are home to 10-15% of Yangon's total population (Dobermann, 2016). Several factors contribute to the growth of slums. One factor is large inwards migration from rural areas, with many of Yangon's slums located in townships on the outskirts or periphery of the city. Another cause has been the insufficient supply of affordable housing. Rising living costs have amplified this problem. With property prices rising, workers are forced to move farther away from the centre of a city for housing. If a city has strong transportation links then this effect is weaker because such links enable people to travel quickly and cheaply for work. When transportation infrastructure is weak, moving farther outside of the city while keeping employment becomes less and less likely; instead, they can become trade-offs, with some choosing to live in substandard housing or slums to be closer to jobs.

Part of Yangon's housing challenge comes from its lack of an established land market (UN-Habitat, 2016). As Yangon grows and becomes denser, it is natural that the property and land prices rise. One way to reduce the negative effects of this is to make sure land is used efficiently. High rent residential areas near the centre of downtown Yangon should also be high density, with land prices declining by distance. One area where this rule does not apply relates to Yangon's widespread heritage. Investments into preserving and utilising historical buildings can generate economic activity as well as improve living conditions. In Yangon's case, however, many old houses and buildings are left dilapidated, taking up valuable space near the central business district without offering immediate value. Poor land use creates a scarcity for land, one factor which drives up property prices.

In sum, to address the housing challenge, the focus needs to move beyond slum upgrading. Instead, the government should embrace measures which increase the supply of affordable housing and which offer more options for low and middle income households; efficient land tenure and ownership record systems is the first step towards this path (World Bank, 2013).

Contagion

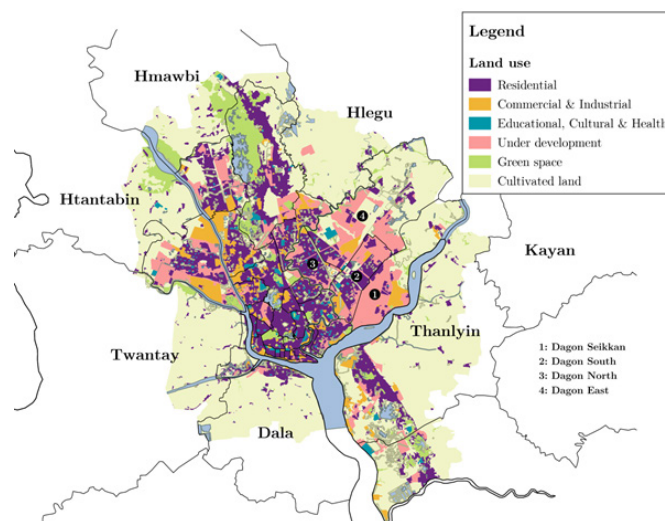
As the municipal boundary of Yangon grows, the city authorities become responsible for providing urban services for a larger and larger population. This presents a challenge for future growth as current capacity constraints already limit YCDC's ability to provide services for all. Municipal institutions need to be structured and planned in a way that allows them to adapt and be suitable for rapidly growing urban areas (Venables, 2015). Deciding how and when municipal boundaries expand

is not straightforward and should be done with relative caution. What is essential, however, is that such planning is done actively together with YCDC, the Yangon Regional Government, and other stakeholders. Underlying sewerage infrastructure in Yangon dates back to British colonial times and the overall coverage is minimal. Waste water in Yangon has only been treated since 2005. Problems in reaching the most difficult areas mean sanitation is poor in these parts, having direct effects on health. Diarrhoea, stomach problems, and hepatitis – all by-products of poor sanitation – are common in poorer outlying areas of the city.

A lack of funding has weakened the government’s ability to build necessary infrastructure improvements. Inefficient utility companies also harm service quality: in Yangon, water losses and non-revenue water amounts to over half of the total supply, meaning piped water is not always stable or reliable. The tariffs for water supply, sanitation, and waste collection are very low, leaving little in the government’s coffers for investment in improved infrastructure.

Yangon tomorrow: Opportunities for peri-urban growth

Figure 2: Land use for the greater Yangon area (2012).



Data: YCDC

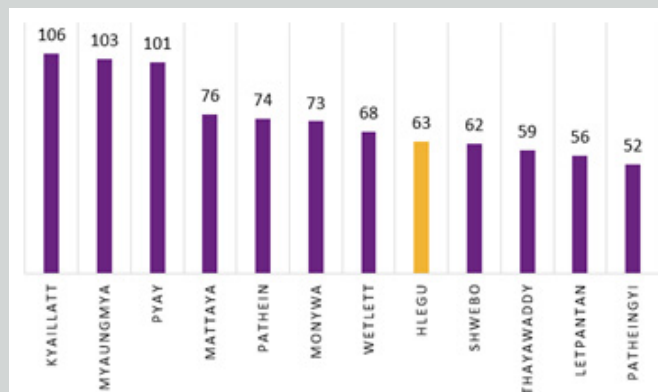
The Strategic Urban Development Plan of Greater Yangon, prepared by JICA, outlines the direction of future urban growth. A central strategy is to develop the northeast of Yangon (North, South & East Dagon; Dagon Seikkan; and Hlegu Townships). Parts of these townships are under development (Figure 2), while others like Hlegu remain predominantly rural. However, these areas are poised to see large growth in population and urban development in the next decades. Infrastructure is a central feature of the strategy, with the plan outlining the construction of

an outer ring road, a large number of housing projects, two or three new industrial zones, upgraded railway lines and expressways, and the construction of three new urban mass rapid transit lines into central Yangon (JICA, 2014). Once completed, these infrastructure projects will create a strong pull for both firms and individuals, attracting industrial and manufacturing activity and bringing in more people.

Box 1: Background on Hlegu Township

Hlegu sits 45km northeast of Yangon, but despite its proximity, it has yet to benefit significantly from increasing urbanisation in Yangon. Hlegu borders the municipal boundary of Yangon and is therefore not part of YCDC; instead, it is administered separately with its own DAO. Based on the 2014 Census, 85% of the population in Hlegu is rural (total population: 270,741). A large share of those residing in Hlegu are migrant workers, primarily from Ayeyarwady and Bago regions.

Agriculture is the primary means of employment and the poverty rate stands at 16.2%. Rice cultivation is the main agricultural activity, with Hlegu having average productivity (Figure 3).



Despite a strong focus on rice cultivation, an increasing number of farmers are turning to alternatives such as aquaculture and vegetables which can offer higher profits. Industry presence in Hlegu consists mostly of rice and oil mills, with some tree production. Two factories currently operate in the township with legal authorisation, though smaller informal factories exist.

Support for small and medium enterprises is limited, making it difficult for local residents to start such enterprises while still covering the costs associated with schooling, health, and other expenditures.

Existing infrastructure in the township is weak. Hlegu is notable for the national highway which runs through it, but otherwise paved roads are limited and there is a clear need for further bridges. Many villages in Hlegu lack electricity, constraining their growth, making this a top area for investment.

A key rationale of the strategy is to reduce congestion by decentralising activity away from the central business district. Yangon has so far avoided unplanned sprawl with the physical growth of the city being slower than its growth in population. This presents the government with a unique opportunity to incorporate the various challenges which come with urban expansion into its plans and to make sure they are properly accounted for. Using detailed information collected on Hlegu as a case study (see Box 1), this section discusses some of the issues which, if left unchecked, may act as barriers to successful development of Yangon's urban periphery.

Land

The urban periphery is valuable precisely because of the availability of land. This, however, can quickly attract the unwanted attention of speculators. In Yangon's case, the clear designation of the northeast as a future expansion zone has led to a sharp increase in land prices. Interviews with local township administrators revealed that such speculation has compromised their ability to pursue development plans and to invest in their township. Similar behaviour has been observed in the various industrial zones scattered around Yangon, where land is purchased with the stated intention of constructing factories but where this promise goes unfulfilled. Investors buying and holding out land for future resale raises the price of neighbouring plots of land, potentially crowding out businesses or farmers who seek to use the land for productive purposes.

One way to start addressing speculation is to make sure a transparent market for land is established with effective enforcement of land tenure rights. This will help settle land disputes which will become inevitable as these areas see more development and construction. In addition, by making sure all transactions take place in the formal system the government can monitor how land values evolve. Accessible information about the actual values of land, to both prospective buyers and current holders of land, could help prices balance out at more reasonable levels.

Another challenge relates to land use regulations. In Hlegu, the aquaculture sector has great potential. However, aquaculture is not classified as agricultural use of land, and therefore switching from paddy to aquaculture requires going through a Union-level government approval process. The same applies for other non-agricultural uses of land (e.g. changing land to set up a small enterprise). Because much of the land in northeast Yangon is cultivated (Figure 2), difficulties in changing land use could act as a barrier preventing enterprises from starting up or moving to these areas. The main attraction of peri-urban areas is their abundance of land and cheaper labour while still remaining close to the city; if land use regulations are too burdensome then businesses might choose not to relocate.

Lastly, peripheral townships like Hlegu should think about how to leverage

their land for agribusiness and the development of agricultural value chains. Their proximity to the large market of urban Yangon, with its ports and terminals, presents a tremendous opportunity for high-value agriculture. Land tenure for farmers is weak, limiting their incentives for long-term investments into land. Knowledge about how to reach larger urban markets (in Yangon or elsewhere) might not be widespread and the ability to expand operations might be curtailed by a lack of financing. These challenges present areas for the government to work on providing information and on increasing the availability of credit.

Infrastructure

Having good transport connections into Yangon is essential to attract economic activity into the periphery. The strategic plan for Yangon lays out detailed plans for roads, railways, and highways in these areas. A key task for local township officials and the regional government is to map out the secondary roads and bridges which will link up the township to these main transport arteries. Without them, the benefits of peri-urban growth will not flow to rural areas and the supply of necessary inputs for production might not be stable. For example, the lack of paved roads in Hlegu means transportation challenges are amplified during the rainy season, affecting not only the flow of goods or crops but also the mobility of people. Low quality rural roads are a barrier for farmers and small businesses seeking to benefit from access to a larger market.

The lack of reliable electricity is one of the main constraints preventing businesses from growing in Myanmar. Peri-urban areas are no exception, and if they are to become new spots for industrial activity the provision of quality electricity infrastructure will be essential. Plans for new industrial zones on the outskirts of Yangon will have to incorporate the electricity infrastructure needed to power their production. Electricity access drops quickly as one moves outside Yangon. The Ministry of Electricity and Energy (MOEE), with support from international donors, is running a National Electrification Plan (NEP) to provide electricity for all by 2030. The majority will receive electricity through an extension of the national grid. Fortunately, the proximity to Yangon means the existing national grid infrastructure is close to peri-urban areas, so extensions to the grid will come early in the plan and at a relatively cheap cost. One issue to address is the large upfront financial costs and the organisational challenge of villages connecting to the national grid (Dobermann, 2016). Delays in accessing electricity can set back development plans for these townships.

Water and sanitation infrastructure is currently lacking and even more so in the urban periphery. Wastewater treatment plants and sewerage and water systems should be planned in advance of urban growth in these areas to avoid the problems of contagion. Financing such investments in peripheral areas will be a challenge. Tariffs for water supply, sanitation, and waste collection are very low, leaving insufficient funds for operation, maintenance, and crucially, new investment. These financial difficulties

facing utilities open space for the private sector to work together with the government in helping serve peri-urban populations. At the regional and municipal level, the government can work towards lowering the amount of non-revenue water supply. One way to improve the operation of utilities is to put in place a streamlined governance structure, for instance by managing utilities on a corporate basis. Lastly, because large infrastructure projects take time and large amounts of capital, peri-urban areas can improve sanitation through proven alternatives, such as providing chlorine tablets at the point of water consumption. This has been shown to just as effective as larger infrastructure projects in improving sanitation and health outcomes (Kremer, Miguel, Mullainathan, Null, & Zwane, 2009).

Institutions

As Yangon's experience shows, the growth of urban areas can happen at a speed and scale beyond the ability of the institutions to adapt. This is why addressing institutional challenges early-on will prevent urban expansion from becoming an uncontrollable urban sprawl.

The main institutional question is how township Development Affairs Organisations (DAOs) interact with regional and neighbouring municipal governments, and how these interactions will evolve over time. DAOs are relatively decentralised bodies responsible for municipal governance outside of Yangon and Mandalay. They have a strong degree of financial independence. While planning falls under their remit, they often have limited capacity to engage in long-term development plans. Multi-year budgeting is not allowed, making it difficult to plan ahead for future developments. Channels of communication between DAOs, regional governments, and Union-level line ministries are often sparse, making coherent planning even more difficult. The responsibilities between these groups can be muddled in practice; for example, some village tracts in Yangon are considered part of the city and vote in municipal elections but are still serviced by their local DAOs instead of YCDC. For peri-urban development in Yangon to succeed, the main institutional challenge will be ensuring a smooth collaboration between these groups.

Here the Yangon Regional Government can play a valuable role in working together with the DAOs of townships neighbouring Yangon to devise strategies for their own spatial and economic development. Close interactions can make sure that regional infrastructure plans are integrated into local plans. In addition, the regional government can bring clarity by charting out how these townships will fit in within municipal boundaries in the future. For example, Hlegu is seen as a township which may fall under the auspices of YCDC in the future. This is attractive as it could encourage further investment and industrial activity, but it raises concerns among locals about increased taxation and reduced local autonomy. Answering these concerns will not only improve public sentiments about change but also give confidence to enterprises about future opportunities for growth.

Secondly, coordination between the various levels of government on

planning, financing, and implementation will make sure that adequate and appropriate infrastructure is built on time. Communication between levels of government is currently not clear, leading to overlaps and confusion over responsibility. For example, several roads identified by Hlegu township authorities as being high priority for upgrading/construction appear to fall under the authority of the regional government, making it difficult for them to initiate improvement works. If there is a regional plan to build new transport infrastructure, local officials can work on developing the associated secondary links to make sure the area benefits fully.

A great example of where all levels of government can interact and plan ahead is on the construction of the Hanthawaddy Airport, which is expected to be completed by 2022. The main link to Yangon runs through Hlegu, creating an opportunity for the township to take advantage of the incoming investments and an increase in traffic. However, to date the township has not been involved in any planning or consultation. One possibility is to develop a service economy along the highway to serve both airport customers and employees. Such a plan presents a clear opportunity for external investment in strengthening infrastructure, including roads and power, along the highway. To do this, the township would need an appropriate place at the planning table in concert with the Yangon Regional Government to guarantee their plans are coordinated and well thought-out.

Conclusion

The urban periphery plays an important role in the growth and development of a city. These are attractive areas for manufacturing because costs tend to be lower. For individuals, these areas serve as the entry points for migrants. Yangon has seen little spatial expansion in recent years, despite a rising population. Urban planners are now looking towards peri-urban townships bordering Yangon's central business district as future spots for growth.

Done well, such efforts can help lower the congestion pressures felt downtown while bringing economic benefits to many – both to those in urban areas and those nearby who service them. This represents Yangon's peri-urban opportunity. However, Yangon must be careful to strike a balance: rapid expansion in the physical size of a city can quickly lead to sprawl, making it more expensive to move around the city. Insufficient investment into infrastructure can reduce living standards in these areas and can curtail economic activity. The capacity of the government to provide adequate services might be stretched if unplanned growth is too high.

Therefore, successfully developing Yangon's periphery requires a coordinated effort between government agencies at all levels to plan necessary infrastructure investments and to make appropriate institutional changes.

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